Appl. No. 09/591,104
Amdt. dated November 24, 2003
Reply to Office Action of July 23, 2003

PATENT

Amendments to the Specification:

Please amend the title to read:

"SOFTWARE PREFETCH SYSTEM AND METHOD FOR CONCURRENTLY
OVERRIDING DATA PREFETCHED INTO MULTIPLE LEVELS OF CACHE"

Please replace the paragraph on page 4, beginning on line 9 with the following rewritten

paragraph:

Fig. 1 is a block diagram showing an example of a hardware structure of a-an information processing system. The system includes an external storage subsystem having the dynamic cache control function of an embodiment of the invention. As an example of the external storage subsystem, a disk array subsystem is shown; however, a magnetic disk subsystem with cache memory, an optical disk subsystem with cache memory or a data buffer memory, a flash memory, etc., may be a suitable external storage subsystem to which the present invention is applied.

Please replace the paragraph on page 4, beginning on line 16 with the following rewritten

paragraph:

The disk array subsystem 20 in this embodiment is connected via channels 6 to 9 to a central processing unit (also referred to as a host unit or an upper unit) 1, 2 via communication links such as cables 10 to 13. A service processor 21 in the disk array subsystem 20 sets composition information for the disk array subsystem, writes to the external storage subsystem, writes the composition information to a shared memory 50 through bus 41, collects operating information and error information from the disk array subsystem 20, and generally maintains it. As actual examples of the operating information of the disk array subsystem 20, there are time, physical cylinder and head address, access frequency, device address, the number of read/search bytes, the number of data over run occurrences, and the number of error occurrences, for example, CRC (cyclic redundancy check) errors.

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Please replace the paragraph on page 5, beginning on line 1 with the following rewritten paragraph:

> Bus 41 is a communication control line which connects the channel interface control units 31 to 35, the shared memory 50, the drive interface control units 71 to 74, and the service processor 21. Bus 41 is used for communication among the channel interface control units 31 to 35, the drive interface control units 71 to 74, and the service processor 21, and for referring/updating between the shared memory 50 and the channel interface control units 37 31 to 35, the drive interface control units 71 to 74, or the service processor 21.

Please replace the paragraph on page 7, beginning on line 13 with the following rewritten paragraph:

> Ordinarily, user data is stored in a data-set under management of the operating system. The operating system manages these data-sets with a Volume table of contents (VTOC). The "Beginning of extent" (BOE) and the "End of extent" (EOE) relate to a domain of the data-set among information written in the VTOC. The BOE indicates the beginning of a an extent with cylinder number, track number, sector number, etc. of a direct access volume. EOE records the end of a extent in the same format as the BOE. A domain between BOE and EOE is referred to as a data-set domain. The host utility program 4 reads from the user defined information 91, or the host utility program 5 reads from the operating information 92. The data set name, which is an object of set residing data or reset residing data in the cache memory 60. It thus obtains the BOE and EOE of the data-set from the information written in the VTOC. The host utility programs 4 and 5 make BOE the Beginning position information of resident extent 202 and make EOE the End position information of resident extent 203, then indicate the Resident extent parameters 200 to the disk array subsystem 20.